

117TH CONGRESS  
2D SESSION

# S. 4492

To provide for the National Academies of Sciences, Engineering, and Medicine to study and report on a Federal research agenda to advance the understanding of perfluoroalkyl and polyfluoroalkyl substances, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

JUNE 23, 2022

Mr. PETERS (for himself, Mr. MORAN, and Mrs. SHAHEEN) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

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# A BILL

To provide for the National Academies of Sciences, Engineering, and Medicine to study and report on a Federal research agenda to advance the understanding of perfluoroalkyl and polyfluoroalkyl substances, and for other purposes.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*

3       **SECTION 1. SHORT TITLE.**

4       This Act may be cited as the “Federal PFAS Re-  
5       search Evaluation Act”.

6       **SEC. 2. FINDINGS.**

7       Congress finds that—

1                         (1) perfluoroalkyl and polyfluoroalkyl substances are a group of manmade chemicals that have  
2                         been used in a wide range of products since the  
3                         1940s, including firefighting foam, carpeting, packaging,  
4                         and cookware;

5  
6                         (2) there are more than 5,000 types of registered perfluoroalkyl and polyfluoroalkyl substances;

7  
8                         (3) perfluoroalkyl and polyfluoroalkyl substances are not currently regulated at the Federal  
9                         level;

10  
11                         (4) perfluoroalkyl and polyfluoroalkyl substances—

12  
13                             (A) have been detected in air, water, soil,  
14                             food, biosolids, and more, where they persist for  
15                             a long time;

16  
17                             (B) can accumulate and remain in the  
18                             human body and in wildlife and other biota for  
19                             a long time; and

20  
21                             (C) can lead to serious health effects, including cancer, low infant birthweight, liver and  
22                             kidney issues, reproductive and developmental problems, and more;

23                         (5) there remains much unknown about—

24  
25                             (A) the toxicity, human and environmental health effects, exposure pathways, and effective

1 removal, treatment, and destruction methods of  
2 perfluoroalkyl and polyfluoroalkyl substances;  
3 and

4 (B) safe alternatives to perfluoroalkyl and  
5 polyfluoroalkyl substances;

6 (6) Federal research efforts have been frag-  
7 mented at various Federal agencies and have strug-  
8 gled to effectively address the full scope of chal-  
9 lenges presented by perfluoroalkyl and  
10 polyfluoroalkyl substances;

11 (7) regulatory action and cleanup with respect  
12 to perfluoroalkyl and polyfluoroalkyl substances de-  
13 pend on—

14 (A) scientific analysis of toxicity data of  
15 perfluoroalkyl and polyfluoroalkyl substances;

16 (B) decisionmaking on how best to deal  
17 with the thousands of perfluoroalkyl and  
18 polyfluoroalkyl substances; and

19 (C) understanding the significance of the  
20 many exposure pathways for perfluoroalkyl and  
21 polyfluoroalkyl substances that exist; and

22 (8) a consensus study by the National Acad-  
23 emies would help inform decisions by the Federal  
24 Government, State governments, industry, and other

1       stakeholders on how to best address perfluoroalkyl  
2       and polyfluoroalkyl substances.

3 **SEC. 3. DEFINITIONS.**

4       In this Act:

5              (1) ADMINISTRATOR.—The term “Administrator” means the Administrator of the Environmental Protection Agency.

8              (2) DIRECTOR.—The term “Director” means the Director of the National Science Foundation.

10             (3) NATIONAL ACADEMIES.—The term “National Academies” means the National Academies of Sciences, Engineering, and Medicine.

13 **SEC. 4. NATIONAL ACADEMIES REPORTS.**

14       (a) RESEARCH ASSESSMENTS OF PFAS EXPOSURE  
15 AND TOXICITY.—

16              (1) IN GENERAL.—Not later than 90 days after  
17 the date of enactment of this Act, the Director, in  
18 consultation with the Administrator, the Secretary  
19 of Defense, the Director of the National Institutes  
20 of Health, and the heads of other Federal agencies  
21 with expertise relevant to understanding exposure to  
22 and toxicity of perfluoroalkyl and polyfluoroalkyl  
23 substances, shall enter into an agreement with the  
24 National Academies—

- 1                             (A) to conduct a 2-phase study in accord-  
2                             ance with this subsection to identify research  
3                             and development needed to advance human ex-  
4                             posure estimations and toxicity and hazard esti-  
5                             mations of individual perfluoroalkyl and  
6                             polyfluoroalkyl substances or perfluoroalkyl and  
7                             polyfluoroalkyl substances collectively; and  
8                             (B) to submit reports describing the re-  
9                             sults of the studies in accordance with this sub-  
10                            section.

11                         (2) PHASE I STUDY AND REPORT ON HUMAN  
12                         EXPOSURE ESTIMATION.—

- 13                         (A) IN GENERAL.—The phase I study  
14                         under paragraph (1) shall, at a minimum—  
15                             (i) consider lifecycle information on  
16                             the manufacture, use, and disposal of  
17                             products containing perfluoroalkyl and  
18                             polyfluoroalkyl substances to identify po-  
19                             tential human exposure sources and path-  
20                             ways;  
21                             (ii) evaluate—  
22                                 (I) the fate and transport of  
23                             perfluoroalkyl and polyfluoroalkyl sub-  
24                             stances; and

(II) the breakdown products of perfluoroalkyl and polyfluoroalkyl substances, as related to human exposure;

(iii) if feasible, estimate human exposure to individual perfluoroalkyl and polyfluoroalkyl substances or perfluoroalkyl and polyfluoroalkyl substances collectively to determine relative source contributions for various exposure pathways (such as air, water, soil, or food);

(iv) determine which perfluoroalkyl and polyfluoroalkyl substances are most likely to contribute to human exposure; and

(v) identify research that is needed to advance exposure estimations to individual perfluoroalkyl and polyfluoroalkyl substances or perfluoroalkyl and polyfluoroalkyl substances collectively.

(B) REPORT.—Not later than 1 year after the date on which the agreement described in paragraph (1) is finalized, the National Academies shall—

(i) submit to Congress a report containing the findings and recommendations of the study described in subparagraph (A); and

(ii) make the report under clause (i) available on a publicly accessible website.

### (3) PHASE II STUDY AND REPORT ON PFAS

## TOXICITY AND HAZARD ESTIMATION.—

(A) IN GENERAL.—The phase II study under paragraph (1) shall, at a minimum—

(i)(I) review animal and human toxicity information on the perfluoroalkyl and polyfluoroalkyl substances most likely to contribute to human exposure, as identified in the phase I report under paragraph (2)(B)(i); and

(II) develop an approach for conducting a human health hazard assessment of the identified perfluoroalkyl and polyfluoroalkyl substances;

(ii) give consideration as to whether chemical category-based approaches for assessing hazards would be appropriate for evaluating perfluoroalkyl and polyfluoroalkyl substances as a group; and

(iii) identify research that is needed to advance toxicity and hazard assessments of individual perfluoroalkyl and polyfluoroalkyl substances or perfluoroalkyl and polyfluoroalkyl substances collectively.

(B) REPORT.—Not later than 1 year after the date on which the phase I report is submitted to Congress under paragraph (2)(B)(i), the National Academies shall—

(i) submit to Congress a report containing the findings and recommendations of the study described in subparagraph (A); and

(ii) make the report under clause (i) available on a publicly accessible website.

16 (b) RESEARCH ASSESSMENTS OF MANAGEMENT AND  
17 TREATMENT ALTERNATIVES FOR PFAS CONTAMINATION  
18 IN THE ENVIRONMENT AND DEVELOPMENT OF SAFE AL-  
19 TERNATIVES.—

20                         (1) IN GENERAL.—Not later than 90 days after  
21                         the date of enactment of this Act, the Director and  
22                         the Administrator, in consultation with the Sec-  
23                         retary of Defense and the heads of other Federal  
24                         agencies with expertise relevant to the development  
25                         of alternatives to perfluoroalkyl and polyfluoroalkyl

1        substances and the management and treatment of  
2        perfluoroalkyl and polyfluoroalkyl substances, shall  
3        jointly enter into an agreement with the National  
4        Academies—

5                (A) to conduct a 2-phase study in accord-  
6        ance with this subsection to better under-  
7        stand—

8                        (i) the research and development  
9        needed to advance the understanding of  
10        the extent and implications of environ-  
11        mental contamination by perfluoroalkyl  
12        and polyfluoroalkyl substances;

13                        (ii) the best methods to manage and  
14        treat that contamination; and

15                        (iii) the development of safe alter-  
16        natives to perfluoroalkyl and  
17        polyfluoroalkyl substances; and

18                (B) to submit reports describing the re-  
19        sults of the studies in accordance with this sub-  
20        section.

21                (2) PHASE I STUDY AND REPORT ON TREAT-  
22        MENT AND REMEDIATION.—

23                (A) IN GENERAL.—The phase I study  
24        under paragraph (1) shall, at a minimum—

(i) assess the best available strategies for treatment, site remediation, and safe disposal of perfluoroalkyl and polyfluoroalkyl substances; and

5 (ii) describe research gaps relating to  
6 the issues described in clause (i), including  
7 socioeconomic considerations and ways  
8 that the Federal Government can address  
9 the research needs.

20 (3) PHASE II STUDY AND REPORT ON ASSESS-  
21 MENT OF SAFE ALTERNATIVES FOR PFAS.—

22 (A) IN GENERAL.—The phase II study  
23 under paragraph (1) shall, at a minimum—  
24 (i) examine the state of knowledge for  
25 alternatives to perfluoroalkyl and

1                   polyfluoroalkyl substances in applications  
2                   currently, as of the date of the study,  
3                   using perfluoroalkyl and polyfluoroalkyl  
4                   substances that contribute to significant  
5                   human health or ecological exposures and  
6                   potential risk; and

7                   (ii) identify research needs to address  
8                   the highest priorities for development of al-  
9                   ternatives to perfluoroalkyl and  
10                  polyfluoroalkyl substances.

11                  (B) REPORT.—Not later than 3 years after  
12                  the date on which the agreement described in  
13                  paragraph (1) is finalized, the National Acad-  
14                  emies shall—

15                  (i) submit to Congress a report con-  
16                  taining the findings and recommendations  
17                  of the study described in subparagraph  
18                  (A); and

19                  (ii) make the report under clause (i)  
20                  available on a publicly accessible website.

21                  **SEC. 5. IMPLEMENTATION PLAN.**

22                  (a) IN GENERAL.—Not later than 180 days after the  
23                  date on which all reports from the National Academies  
24                  under section 4 have been submitted to Congress, the Di-  
25                  rector of the Office of Science and Technology Policy, in

1 coordination with the heads of all relevant Federal agen-  
2 cies, shall submit to Congress an implementation plan for  
3 increased collaboration and coordination of Federal re-  
4 search, development, and demonstration activities with re-  
5 spect to perfluoroalkyl and polyfluoroalkyl substances.

6       (b) REQUIREMENT.—In preparing the implementa-  
7 tion plan under subsection (a), the Director of the Office  
8 of Science and Technology Policy shall take into consider-  
9 ation the recommendations included in the reports sub-  
10 mitted to Congress under section 4.

